

CLAIMS

- [1] A semiconductor integrated circuit device comprising:
- an input conductor that is connected from outside to an input circuit operating on a first power source voltage; and
- an output conductor leading to an outside that is adjacent to the input conductor and is connected to an output side of a switch element operating on a second power source voltage that is higher than the first power source voltage,
- wherein, upon detecting that a voltage higher than a reference voltage is inputted to the input conductor, an output from the output side of the switch element connected to the output conductor adjacent to the input conductor is inhibited.
- [2] A semiconductor integrated circuit device comprising:
- an output portion that outputs a predetermined voltage to an outside from a voltage output terminal via a switch element; and
- a control portion that can control and open the switch element when a voltage inputted to an voltage input terminal from outside is higher than a reference voltage,
- wherein the voltage input terminal is so arranged as to be adjacent to the voltage output terminal.
- [3] A semiconductor integrated circuit device comprising:
- an output portion that outputs a pulse voltage obtained by switching a direct-current voltage with a switch element to an external smoothing circuit from a voltage output terminal; and

a control portion that controls the switch element so that a feedback voltage based on an output voltage of the smoothing circuit becomes equal to a reference voltage, the output voltage being inputted from outside to a voltage input terminal,

wherein the voltage input terminal is so arranged as to be adjacent to the voltage output terminal.

[4] A semiconductor integrated circuit device comprising:

an output portion that outputs via a switch element a predetermined voltage to an outside from a voltage output terminal through a voltage output line; and

a control portion that performs predetermined control based on a control signal inputted from outside to a signal input line or a signal input terminal that is so arranged as to be adjacent to the voltage output line or the voltage output terminal,

wherein there is provided a voltage detection portion that detects that a voltage higher than a reference voltage is inputted to the signal input line or the signal input terminal and feeds a resultant voltage to the output portion as a voltage detection signal, and

wherein the output portion opens the switch element when the voltage detection signal is provided thereto.

[5] The semiconductor integrated circuit device of claim 4,

wherein the output portion includes

a drive circuit that generates a driving signal for driving the switch element,

and

a logic gate that takes an AND of the driving signal and the voltage detection signal and then feeds a resulting output to a control terminal of the switch element.

- [6] The semiconductor integrated circuit device of claim 4,
wherein the voltage detection portion includes
a first transistor that turns on when a voltage at the signal input terminal is higher than the reference voltage, and
a second transistor that forms a current mirror circuit together with the first transistor, and
wherein the voltage detection signal is outputted from a node at which a resistor that pulls up the second transistor and the second transistor are connected together.

- [7] The semiconductor integrated circuit device of claim 6,
wherein the voltage detection portion further includes a diode in a current path between the signal input terminal and the first transistor, and
wherein a value obtained by adding a forward voltage of the diode and a base-emitter voltage of the first transistor is equivalent to the reference voltage.

- [8] A semiconductor integrated circuit device comprising:
an output portion that outputs a predetermined voltage to an outside of the device from a voltage output terminal via a switch element that is closed/opened based

on an output control signal provided from an external control device;

a reset input terminal that receives a reset input signal from outside; and

a control portion that feeds to the external control device a reset output signal that causes the external control device to stop an output operation of the output control signal when a voltage of the reset input signal is higher than a reference voltage,

wherein the reset input terminal is so arranged as to be adjacent to the voltage output terminal.

[9] The semiconductor integrated circuit device of one of claims 1 to 8,
wherein a breakdown voltage of the switch element is higher than a breakdown voltage of the control portion.

[10] A switching power source device,
wherein the semiconductor integrated circuit device of claim 3 is adopted.